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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/038,569	01/02/2002	Philip Atkin	GJEL:0003	5846

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EXAMINER
AGGARWAL, YOGEESH K

ART UNIT	PAPER NUMBER
2622	

MAIL DATE	DELIVERY MODE
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS,
WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed
  after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any
  earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) ☒ Responsive to communication(s) filed on <u>20 October 2009</u>.

2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.

3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is
closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) ☒ Claim(s) <u>1-3</u> is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5) ☐ Claim(s) _____ is/are allowed.

6) ☒ Claim(s) <u>1 and 3</u> is/are rejected.

7) ☒ Claim(s) <u>2</u> is/are objected to.

8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) ☐ The specification is objected to by the Examiner.

10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a) ☐ All b) ☐ Some * c) ☐ None of:

      1. ☐ Certified copies of the priority documents have been received.

      2. ☐ Certified copies of the priority documents have been received in Application No. _____.

      3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage
application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____.

4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____

5) ☐ Notice of Informal Patent Application

6) ☐ Other: _____.

Continued Examination Under 37 CFR 1.114

1.   A request for continued examination under 37 CFR 1.114, including the fee set forth in

37 CFR 1.17(e), was filed in this application after final rejection. Since this application is

eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e)

has been timely paid, the finality of the previous Office action has been withdrawn pursuant to

37 CFR 1.114. Applicant's submission filed on 10/12/2009 has been entered.

Response to Arguments

2.   Applicant's arguments with respect to claims 1-3 have been considered but are moot in

view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 103

3.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in
> section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are
> such that the subject matter as a whole would have been obvious at the time the invention was made to a person
> having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the
> manner in which the invention was made.

4.   Claims 1 and 3 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mann (US

Patent # 5,828,793) in view of Ikeda (US Patent # 5,801,773).

[Claim 1]

Mann discloses a method of creating an image with a still video camera (col. 11 lines 43-46,

figure 8, element 202). Mann further teaches that the image is transferred to a computer to be

stored on a main memory 210 represented as 212_1, 212_2, 213_3 etc. (col. 11 lines 46-54). Mann

also teaches that the composite images formed from a series of input images wherein every pixel

of the composite image is drawn from the corresponding pixel in each of the input source images according to a weighted average. The weighting is based on a certainty function associated with each source image pixel corresponding to an output pixel in the final composite image. The value of the relevant pixel parameter for a given final-image pixel (weighted average of n samples) is given by

$$\sum_n c_n P_n / \sum_n c_n$$

where c_n is the certainty function associated with the corresponding pixel of each source image n (col. 6 line 51-col. 7 line 8). It is noted that P_n (pixel parameter) is dependent upon exposure time, brightness or luminance and the gain of the system. Mann teaches that the resulting pixel image represented by the expression above is saved in a target buffer 250 whose contents are shown on screen display 234 (col. 12 lines 32-49). The features such as gamma correction (other image data) are also stored in the target image data (col. 13 lines 4-8).

Mann fails to teach explicitly obtaining a substantially linear representation of the image by combining two images. However Ikeda teaches a graph, the x-axis denotes the illuminance of the object, the y-axis, the output of image sensing device. The outline of this method is as follows. The graph shows that at position "x1" on the x-axis, the output of the image sensing device with proper exposure (image data I) is at a noise level, while the image sensing output exhibits proper value for the image (image data II) with increased exposure. The signals of the standard image I at "0" to the noise level are replaced with the non-standard image II, thus an image signal with an enlarged dynamic range is obtained. Then, as shown in FIG. 21A, a standard image I' the inclination of which is I'.times.K is obtained by multiplying

the slope of the standard image I by a predetermined luminance level adjusting factor K so that

the slope of the standard image I will become parallel to the slope of the non-standard

image II. Hereinafter this calculation will be referred to as "luminance level adjustment". The

noise level of the standard image I' is n.times.K. Then, an arbitrary threshold T is taken above

the noise level n.times.K value. As shown in FIG. 21B, data below the threshold T is replaced

with the non-standard image signal II. This eliminates the noise between the levels n to n'

(=n.times.K, col. 19 lines 47-col. 20 line 10, figures 21a-21b).

Therefore taking the combined teachings of Mann and Ikeda, it would be obvious to one

skilled in the art at the time of the invention to have been motivated to have obtained a

substantially linear representation of the image by summing two images in order to obtain a wide

dynamic range image so that the final image provides increased highlight detail despite the

limited response of the system that produced the component images.

[Claim 3/1]

Mann teaches that the different images are color so that the offset will be color dependent (col.

13 lines 21-30).

Allowable Subject Matter

5.   Claims 2 and 3/2 are objected to as being dependent upon a rejected base claim, but

would be allowable if rewritten in independent form including all of the limitations of the base

claim and any intervening claims.

The prior art fails to teach or suggest a linear relationship is established between images recorded

with different exposure times by the use of a perpendicular regression technique whereby each

image is transformed to match the scale and offset of the first in the series and whereby the

weighted average is calculated.

6.   Claim 3/2 is dependent upon claim 2.

Conclusion

Any inquiry concerning this communication or earlier communications from the

examiner should be directed to YOGESH K. AGGARWAL whose telephone number is

(571)272-7360. The examiner can normally be reached on M-F 9:00AM-5:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Sinh Tran can be reached on (571)-272-7564. The fax phone number for the

organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent

Application Information Retrieval (PAIR) system. Status information for published applications

may be obtained from either Private PAIR or Public PAIR. Status information for unpublished

applications is available through Private PAIR only. For more information about the PAIR

system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR

system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would

like assistance from a USPTO Customer Service Representative or access to the automated

information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Yogesh K Aggarwal/
Examiner, Art Unit 2622